

ABSTRACT

In order to minimize the potential for damage to bio-compatible and/or therapeutic-containing stent coatings, there is provided a compliant elastic sheath over layer between a non-compliant stent expansion balloon and an unexpanded stent, which is secured over the balloon with a securing crimp. This stent deployment assembly, which is mounted on a catheter, is maneuvered through a patient's body to a desired deployment site and then inflated to expand the stent to the desired diameter. During expansion, the compliant elastic material between the stent and the non-compliant balloon prevents non-compliant balloon-induced damage to the stent's coating, as well as preventing degradation of the non-compliant balloon by, for example, stent-caused punctures. The deflated non-compliant stent expansion balloon and compliant elastic sheath are then withdrawn from the patient's body, leaving the deployed stent at the desired implantation site with its coating substantially intact.